REMARKS

The Examiner has finally rejected claims 1-8 and 10 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,787,131 to Bottomley.

The Bottomley patent discloses a method and apparatus for mitigation of self interference using array processing, which includes multiple antenna receiving branches, and each branch having estimating means.

As noted in MPEP §2131, it is well-founded that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California,* 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Further, "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.,* 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Claim 1 includes the limitations "each of said multiple antenna receiving branches comprising estimating means for estimating at least a receiving channel parameter" and "a first estimating means in one branch of the multiple antenna receiving branches is operatively connected to a second estimating means in a further branch of the multiple antenna receiving branches for using at least a part of the channel parameter estimate in the one branch as an aid for estimating at least a receiving channel parameter in

the further branch" (a similar limitation appears in independent claim 8).

The Examiner has indicated that Bottomley teaches this limitation:

> "wherein a first estimating means (204, 306 and 302 connected to $r_a(n)$ in Fig. 3) in one branch of the multiple antenna receiving branches ($r_a(n)$ in Fig. 3) is operatively connected to a second estimating means (204, 306 and 302 connected to $r_b(n)$ in Fig. 3) in a further branch of the multiple antenna receiving braches $r_b(n)$ in Fig. 3) for using at least a part of the channel parameter estimate in the one branch as an aid for estimating at least a receiving channel parameter in the further branch (302 from estimating means of $r_a(n)$ branch is connected to 306 from channel estimating means of $r_b(n)$ in Fig. 3; furthermore, 302 from estimating means of $r_b(n)$ branch is connected to 306 from channel estimating means of $r_a(n)$ in Fig. 3)".

Applicant submits that the Examiner is mistaken. Applicant notes that Bottomley clearly shows separate channel estimators 302 for each of the branches $r_a(n)$ and $r_b(n)$. While Bottomley shows the outputs from these two channel estimators being co-processed in an impairment correlation processor 306 and a weight processor 204 for providing weights for respective half complex multipliers (HCM) 208, the two channel estimators operate independently from each other. Hence, Applicant submits that there is no disclosure or suggestion of the estimating means in the further branch using at least a part of the channel parameter estimate in the one branch as an aid for estimating at least a receiving channel parameter in the further branch.

The Examiner now states:

"Applicant fails to notice that his claimed "a first estimating means" is equivalent to three components of Fig. 3, i.e., 204, 306 and 302, which are connected to $r_a(n)$; and his claimed "a second estimating means" is equivalent to three components of Fig. 3, i.e., 204, 306 and 302, which are connected to $r_b(n)$, as shown below (emphasis added)"

(See Appendix 1)

"Therefore, as noted and admitted by the Applicant discussed above, the first and second estimating means have 204 in common (i.e., "operatively connected"), which 204 receives one channel tap from each antenna, as underlined in the extract above (i.e., "using at least a part of the channel estimation in the one branch as an aid for ... in the further branch")."

Applicant submits that the Examiner is overlooking an earlier portion of claim 1 which states "each of said multiple antenna receiving branches comprising estimating means for estimating at least a receiving channel parameter". Hence, the first and second estimating means estimate "at least a receiving channel parameter". If the first estimating means is, connected to ra(n), 302, 304 and 306, then the output from this first estimating means should be "at least a receiving channel parameter". However, according to Bottomly at col. 4, lines 48-53, the output from this "means" is formed by the weight processor 204, which, at col. 3, lines 8-9, is described as determining "the combined weights, as described in equation (2)." Applicant submits that it should be apparent that the "combined weights" are not "at least a receiving

channel parameter". Instead, the two multi-tap channel estimators 302, shown in Fig. 3 of Bottomley, correspond to the first and second estimating means of the subject invention in that they do form "at least a receiving channel parameter", and the two multi-tap channel estimators form their respective channel estimates independently.

In view of the above, Applicant believes that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, and as such, is patentable thereover.

Applicant believes that this application, containing claims 1-8 and 10, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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APPENDIX 1

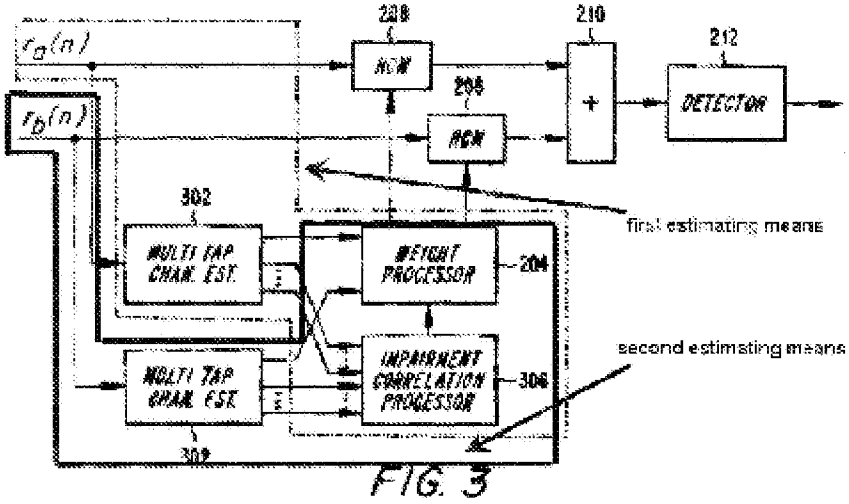

FIG. 3

A block diagram of an exemplary embodiment of the present invention is given in FIG. 3. Each antenna's received sample stream is provided to a multi-tap channel estimator **302**, which models the channel using a plurality of channel taps. One channel tap estimate from each antenna is provided to the weight processor **204**. The rest of the channel tap estimates are provided to the impairment correlation processor **306**, which computes an impairment correlation matrix using the channel tap estimates. Then, as in FIG. 2, the weight processor **204**, the HCMs **208**, the summer **210**, and the detector **212** are used to form a detected information symbol stream.